

To assist the Examiner, attached to this Amendment is an "Attachment" that shows the amendments made to the claims 1, 15 and 17-19 by bracketing the text that has been deleted and underlining the text that has been added.

II. Japanese Priority Document No. 2000-242259

The Examiner acknowledges Applicants' claim to priority based on Japanese Application No. 2000-242259 filed in Japan on August 10, 2000, but indicates that a certified copy of this document was not received. Applicants respectfully submit that the certified copy of the Japanese Application was mailed on November 8, 2001 and received by the Patent Office on January 14, 2002 as evidenced by the copy of the stamped postcard. In the event the Examiner would like another copy of the priority document, the Examiner may contact the undersigned Applicants' representative.

III. Rejections under 35 U.S.C. §112, ¶2

Claims 5-6 and 1-5, 8, 10-15 and 17-19 have been rejected under 35 U.S.C. §112, second paragraph, as being indefinite. Applicants have amended claims 1, 15 and 17-19, in accordance with the Examiner's suggestions. Thus, reconsideration and withdrawal of the objection of these claims and the claims dependent therefrom are respectfully requested.

IV. Rejections under 35 U.S.C. §§102 and 103

Claims 1, 13-15 and 19 have been rejected under 35 U.S.C. §102(b) as being anticipated by Negishi et al (U.S. Patent No. 5,871,266). Claims 2-5, 8, 10-12 and 16-18 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Negishi et al. in view of Braat

(U.S. Patent No. 6,255,661). Applicants respectfully traverse the rejection of these claims, for the reasons set forth below.

Claim 1, as amended, is directed to a display apparatus in which a projection optical system includes a plurality of aspherical curved mirrors and projects the image light with a distortion not more than 1.2%. On the contrary, Negishi does not disclose or suggest a projection optical system which projects an image light with a distortion not more than 1.2%. Further, Negishi is silent as to the mirrors of the projection system 3 shown in Figs. 4-6 being aspherical mirrors. Accordingly, claim 1 and its dependent claims are patentably distinguishable over the cited references.

Claim 16 is directed to a display apparatus in which a projection optical system includes at least six aspherical curved mirrors and a plurality of plane mirrors which are sequentially arranged from the image display means side. As acknowledged by the Examiner, Negishi does not disclose or suggest a projection system including at least six aspherical curved mirrors. The Examiner, however, relies upon Braat as teaching such mirrors. In particular, as the motivation basis for combining the references, the Examiner states:

It would have been obvious to the ordinary skilled artisan at the time of invention to use the projecting mirrors of Braat with Negishi's display system because providing additional aspheric mirrors would yield the benefit of better image correction. (Office Action, page 4)

However, the Examiner has mischaracterized the teachings of Braat. Braat specifically requires all the mirrors in the projection system to be aspherical in order to achieve a satisfactory corrected system. See Braat, Col. 3, lines 19-21 and Col. 4, lines 32-34. For example, Braat states:

By making all mirrors aspherical, a satisfactory corrected system can be obtained with said image field and said numerical aperture.

[. . .]

Furthermore, all mirror surfaces of the system shown in FIG. 1 are aspherical. The system is thereby satisfactorily corrected for the desired aperture. (Col. 3, lines 19-21 and Col. 4, lines 32-34)(emphasis added)

Braat clearly teaches away from a projection system with both aspherical mirrors and plane mirrors, as claimed. See MPEP §§2141.02 and 2145. Thus, one of ordinary skill in the art would not combine Negishi and Braat in the manner suggested by the Examiner, absent impermissible hindsight. In view of the foregoing, claim 16 and the claims dependent therefrom are patentably distinguishable over the cited references. Accordingly, Applicants respectfully submit that the rejection of claim 16 and its dependent claims are improper.

As to the Examiner's taking of Official Notice such as for claim 12, Applicants respectfully traverse the taking of Official Notice and request the Examiner to provide support in the art for the alleged well known fact.

CONCLUSION

Based on the foregoing amendments and remarks, Applicants respectfully request reconsideration and withdrawal of the rejection of claims and allowance of this application.

AUTHORIZATION

The Commissioner is hereby authorized to charge any additional fees which may be required for consideration of this Amendment to Deposit Account No. 13-4503, Order No. 1232-4753. A DUPLICATE OF THIS DOCUMENT IS ATTACHED.

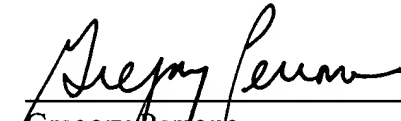
In the event that an extension of time is required, or which may be required in addition to that requested in a petition for an extension of time, the Commissioner is requested to grant a petition for that extension of time which is required to make this response timely and is hereby authorized to charge any fee for such an extension of time or credit any overpayment for an extension of time to Deposit Account No. 13-4503, Order No. 1232-4753. A DUPLICATE OF THIS DOCUMENT IS ATTACHED.

Respectfully submitted,
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Dated: April 9, 2003

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): KUREMATSU et al

Group Art Unit: 2872

Serial No.: 09/924,430

Examiner: Mark A. Robinson

Filed: August 8, 2001

For: DISPLAY APPARATUS

ATTACHMENT

Amendments made to the claims 1, 15 and 17-19 herein are indicated in this attachment by bracketing the text that has been deleted and underlining the text that has been added.

IN THE CLAIMS:

Please note the following changes to claims 1, 15 and 17-19:

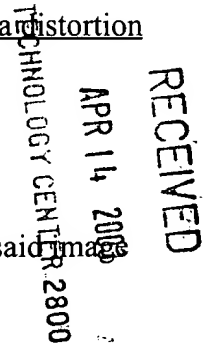
1. (Amended) A display apparatus comprising:

at least one image display means; and

a projection optical system for obliquely projecting image light from said at least one image display means onto a projection surface,

wherein said projection optical system includes a plurality of aspherical curved mirrors and projects the image light [without distortion (not more than 1.2%)] with a distortion not more than 1.2%.

15. (Amended) An apparatus according to claim 14, wherein said image information input device comprises an arithmetic unit [(computer)].



17. (Amended) An apparatus according to claim 16, further comprising an aperture stop between at least one of said curved [mirror] mirrors and said image display means.

18. (Amended) An apparatus according to claim 16, further comprising an aperture stop between second and third mirrors of the curved mirrors from said image display means side.

19. (Amended) A projection optical system for obliquely projecting light from image display means, comprising a plurality of aspherical curved mirrors, wherein an image is projected [without distortion (not more than 1.2%)] with a distortion not more than 1.2%.

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